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ABSTRACT

Factors that are most important to institutional effectiveness in the production of black baccalaureates were studied. A further concern was how these factors can be translated into policies and practices for undergraduate institutions that have not traditionally served black students. An effectiveness quotient was developed as an overall measure of institutional effectiveness. The quotient was a function of total black enrollment and total black graduates in all institutions. An input-output model was also used in the analysis. The first stage of data collection consisted of 1972-1981 enrollments by race, total earned degrees by race, and Scholastic Aptitude Test scores by race. An effectiveness quotient score was calculated for each year, based on comparisons by racial groups as to the effectiveness of the institutions in the production of baccalaureates. Next, detailed institutional data were collected from 84 traditionally white institutions and 18 traditionally black institutions. Finally, a research review was conducted of 31 studies that examined persistence among black undergraduates and/or institutional effectiveness among the colleges. In addition to analysis of the findings, policy implications are considered. A literature review is included. (SW)

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Institutional Effectiveness in the Production of Black Baccalaureates

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Southern Education Foundation
Atlanta, Georgia 30308

Institutional Effectiveness in the Production of Black Baccalaureates

by

Philip S. Hart

College of Public and Community Service

University of Massachusetts - Boston

A Report of Research Completed Under

A Grant From The

Southern Education Foundation

Atlanta, Georgia

1984

FOREWORD

The Southern Education Foundation and the family philanthropies which preceded it have had a special and continuing interest in the education of black Americans for more than a hundred years. The Foundation has been concerned particularly with programs aimed at increasing and improving higher education opportunities for blacks in the South.

In April, 1974, the SEF Board of Directors established a special project, the Higher Education Program, to address issues which were surfacing as a result of the then Adams v. Richardson case. Under this higher education component, the Foundation supported coalitions formed by citizens to monitor state desegregation plans, sponsored conferences and workshops, published papers, monographs and documents, and awarded general grants which focused specifically on achieving equity in higher education in the ten states affected by the Adams case.

In September, 1978, the Higher Education Program proposed concentrating a major portion of its allocation on a Research Task Force which was formed to plan a research agenda for the Foundation and to commission research projects. This body of six educators has commissioned over 20 studies since its inception; this document is presented as part of the Higher Education Program Research Series. Other publications which are part of the series are listed at the end of this report and are available to the public for $5.00 each.

SEF has been able to expand its Higher Education Program as a result of receiving a grant in July, 1983 from the Ford Foundation; the publication of this report is made possible by the grant.

A list of other Foundation publications may be obtained by writing to the Southern Education Foundation.

Thank you.

SOUTHERN EDUCATION FOUNDATION
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Chapter 1
INTRODUCTION

Historically, black colleges and universities have played a critical role in the undergraduate education of black Americans. The majority of these institutions, founded after the Civil War, were for nearly a century the only choice black students had who were interested in a college education. The civil rights movement of the 1960's and the subsequent federal legislation served to open the doors of predominantly white institutions to blacks--in a large number of cases for the first time--and many of them were recruited eagerly. As predominantly white institutions became accessible to black students in the late 1960's, the predominantly black institutions began to experience surges in enrollment that lasted for nearly a decade. This rise of interest in black undergraduates created widening opportunities for them to earn a baccalaureate degree.

But now, officials of many private black colleges say enrollments are slipping and there is serious concern about the future. To an extent, this enrollment slippage is a problem for public black colleges also. Black enrollment at predominantly white institutions has also peaked and fallen off. However, even though the number of black students attending college has more than tripled in the last twenty years, to about 1.3 million, the percentage at black colleges has declined from 82 percent in 1965 to around 28 percent in 1981.

Of the 105 predominantly black colleges, about half are members of state university systems. Approximately 95 percent of these 105 institutions are in southern or border states. Non-black students at black private colleges make up about one percent of total enrollment, a ratio that has remained about the same over the past two decades. Non-black students are more in evidence at black public colleges.

From a financial standpoint, black public institutions seem to be in better condition than black private institutions. Also, they seem to be more successful in expanding their pool of students, principally by enrolling a greater ratio of white students. Traditionally white institutions have also expanded their pool of students by including blacks, particularly at public institutions.

But there has been an overall decline in the traditional 18-22 year old age cohort for all races as the post World War II baby boom group moves into their mid-to-late thirties. Thus, if only for economic reasons, institutions are looking to alternatives. As in the late sixties and seventies when the keynote was heavy recruitment of blacks and women, now the key is different age cohorts. Thus, a crisis is now being felt as institutions scramble for students within a situation of open access and institutional survival becomes partially contingent upon recruiting an undergraduate student population which is age 22 or older.

The overall trends suggest a difficult time for all undergraduate institutions, black institutions in particular, with private black colleges being the most heavily affected. Undergraduate institutions face concerns related to institutional change and institutional survival. As a consequence, black undergraduate students today must face a situation that includes declining enrollments, a reduction in financial aid programs, a reduction in student support services, a decrease in the size of the faculty, a decrease in library volumes, and a real concern about educational quality.

At the institutional level, the concern is thus twofold. On the one hand, how can policies be developed which help preserve the traditional black institutions within a social, political, and economic climate which puts them on the defensive. On the other hand, how can the successful models of educating black undergraduates be transferred to predominantly white institutions that are now serving large numbers of black students. An important concern in this regard is whether traditionally black institutions can be preserved in the process.

Black undergraduates have traditionally been concentrated in the fields of education, the social sciences, humanities, home economics, and physical education, and they have been less in evidence in business, engineering, physical sciences and the biological sciences. However, there was an increased interest in business careers by black undergraduates in 1972.

There have been efforts in recent years to recruit more black undergraduates into the areas they traditionally have been underrepresented. In addition, contemporary and projected socioeconomic conditions have made more black students alert to the value of moving into the fields of business, engineering and the physical and biological sciences.

There is ample evidence (Claffey, 1981; Brazziel and Brazziel, 1980) that traditionally black colleges and universities have been more effective than their white counterparts in moving students through to the baccalaureate degree. It is the black colleges that have graduated 75 percent of all black Ph.D.'s, 75 percent of all black army officers, 80 percent of all black federal judges, and 85 percent of all black doctors (Jordan, 1975). Ambition and determination to succeed continue to be evident at the undergraduate level whereby nearly two-thirds of the men and more than two-thirds of the women who entered black colleges in 1972 planned to continue beyond the bachelor's degree. In all colleges, somewhat over half of the men and only 43 percent of the women planned graduate work.

There are undoubtedly specific reasons why these institutions have done a consistently effective job of producing graduates. Some have attributed this effectiveness to the "philosophy of education" in evidence at traditionally black institutions. Following Blackwell (1981), reasons which can be seen as important in recruiting, retaining, and graduating

black professionals include, numbers of black faculty, quality of financial aid, special admissions programs, retention programs, proportion of blacks in the state population, type of institution, black college in the state, litigation status and number of professional schools in the state. Many of these factors are undoubtedly important in recruiting, retaining, and graduating blacks with bachelor's degrees.

The intent of this study is to identify those factors which are most important to institutional effectiveness in the production of black baccalaureates. Some of these factors are quantitative, while others are more qualitative in nature.

An 'effectiveness quotient' has been developed as an overall measure of institutional effectiveness. This quotient serves as a dependent variable in the examination of a set of independent variables. The 'effectiveness quotient' is a function of total black enrollment and total black graduates in all institutions. Comparisons will be made by type of institution (public, private, TBI, TWI), size of the institution, and other variables in an effort to identify and describe factors which serve to increase or decrease institutional effectiveness.

Measures of input-output are also used in the model of analysis, thus suggesting a concern for institutional efficiency. The efficiency measure, which encompasses an input-

output model (Parsons, 1956; Sower and Miller, 1964; Hart, 1974; Sower, 1976), allows the study to account for student preparation as an input indicator. This is important in that some of the traditionally black institutions enroll large numbers of educationally disadvantaged students because better prepared students are recruited by other institutions. Efficiency and effectiveness are thus affected by this situation. Yet, there is continuing evidence that traditionally black institutions are still effective in admitting, retaining, and graduating students whose educational opportunities have been limited. This study examines the reasons for this continuing success within an input-output model and through the use of an effectiveness quotient. Policies and practices are identified which are effective, and suggestions for replicating such policies and procedures in other institutions are made.

Chapter 2

RESEARCH REVIEW

Background

The research problem of concern in this study is the measurement of institutional effectiveness in undergraduate colleges and universities, and the attempt to identify and describe factors which contribute to institutional effectiveness in producing black baccalaureates. A further concern once the most salient factors in institutional effectiveness are identified and described is how these factors can be translated into policies and practices for other undergraduate institutions that have not traditionally served black students.

For Parsons (1956), an organization is seen as a system which 'produces' an identifiable something which can be utilized in some way by another system. Thus, the output of an organizational system is, for another system, an input. Parsons' general model has three anchor points: (1) the systems from which an organization receives its inputs or resources; (2) the values, structure, and norms which compose the organization as a system; and (3) those systems which use the output of an organization as an input. Effectiveness is measured by the extent to which inputs accomplish an organization's objectives and efficiency is measured by the relationship between inputs and outputs.

The study of organizations has evolved from a closed system (Taylor, 1911; Weber, 1947) approach to an open-system (Bernard, 1938; Selznick, 1949) approach, with a 'natural-system' (Roethlisberger and Dickson, 1939)

perspective serving as an off-shoot of the open system. The closed-system approach assumed that the organizational problems of an enterprise can be analyzed and solved within the internal environment and that changes in the external environment could be accommodated within the existing organization. The open-system approach stresses that organizations are not autonomous entities. Organizations are dependent on other organizations and social units for input and output, for the relative stability of these transactions and the assurance of their continuation into the future, and for the varied social and psychological benefits that the environment can offer the organization. The natural system approach is a variation on the open-system model. This approach assumes the system to be determined by nature, and it is our incomplete understanding which forces us to expect uncertainty. It is acknowledged that there is considerable interdependence with the environment.

The open-system approach is particularly relevant in any study of undergraduate institutions. A primary goal of these institutions is to produce students with baccalaureate degrees. To accomplish this goal, the institutions need input of students and resources from the broader environment (Thompson, 1967; Hart, 1974). This input needs to be consistent and predictable in order for these institutions to sustain themselves. The institutions themselves are characterized by particular norms, values and structure. The primary output of these institutions are students

with baccalaureate degrees in various fields, which then becomes input for other institutional systems (e.g., graduate and professional schools, corporations, public agencies, etc.). The effectiveness of an undergraduate institution is a function of its ability to secure the necessary input (students, resources) and to produce an output (graduates with BA, BS degrees), through an educational process governed by the institutional system (norms, values, structure). In carrying out this function, there is a necessary interdependence with the institutional sphere (Hart, 1974), or the task environment (Thompson, 1967).

In terms of input, black students have been able to gain greater access to traditionally white institutions in recent time. However, the access issue persists in that blacks are underrepresented in many traditionally white institutions. Following Blackwell (1981), access refers to the enrollment of black students in traditionally white institutions. Access can be further sub-divided into three levels. Level one is "weak or limited access," level two is "approximate access," and level three is "equal access." Blackwell measures these three levels of access in relation to the proportion of blacks in the state or national population. Blackwell also identifies five economic barriers to higher education which can affect the input. These barriers are, (1) high rates of unemployment among the black population, (2) inadequate income to support students in higher education programs, (3) low occupational status,

(4) limited access to scholarships and fellowships, and (5) fear of excessive indebtedness resulting from loan programs. Given declining enrollments at most undergraduate institutions, the issues of access and economic barriers are important input measures for both TBIs and TWIs.

Studies of Desegregation in Higher Education: The Southern Education Foundation

Another input measure is federal support programs. Title III of the Higher Education Act of 1965 has provided almost 10 percent of the general expenditure funds for historically black colleges and universities in recent times. Fincher (1980) has shown that historically black colleges strongly support Title III as a crucial factor in the development of those institutions. About half of the institutions participating in Title III are TBIs. This program, as an input, is seen as strengthening the institutional system in such areas as institutional planning and management, faculty development, and curriculum improvements.

In an enrollment patterns study, William F. Brazziel and Marian E. Brazziel (1980) studied undergraduate enrollment patterns in 19 states affected by the Adams litigation. Among their major findings were that black enrollment in all the public and private colleges and universities in the 19 states in 1976 and 1978 corresponded to Blackwell's notion of "approximate access"; total black enrollment represented

about a 3.5 percent increase between 1976 and 1978, and a nearly 20 percent increase between 1974 and 1976; black students enrolled in TBIs declined by close to 5,000 between 1976 and 1978, while black enrollment in TWIs increased by about 6,000; the percentage of black students enrolled in two-year institutions increased from 36.7 in 1976 to 38.8 percent in 1978, and nationwide about 34 percent of all students are enrolled in two-year colleges. They also note that TBIs still award close to half of the approximately 60,000 undergraduate degrees earned by black students each year, even though TWIs enroll a greater number of black students than do TBIs.

In a study of the two-tier system in Florida, Charles M. Grigg (1980) found that there was a decline in the percentage and number of black undergraduates in all levels of the Florida higher education system, a decline in the number of both blacks and whites at Florida A & M University, that a higher proportion of whites earn associate of arts degrees and transfer to upper division studies in the state university system than do blacks, and that a higher proportion of whites than black community college transfers who enter the university system stay on to complete baccalaureate degrees.

A study by Anne Pruitt (1981) of employment data from 232 TWIs, found that employment gains by blacks were miniscule in the 1975-77 period. Community colleges led the way

in hiring black faculty, and that flagship institutions tended to hire more blacks in non-faculty positions. The role of black faculty is particularly important in the recruitment, admittance, retention, and graduation of black professionals, according to Blackwell (1981). It is probably accurate to state that this importance can be attached to black faculty in undergraduate institutions.

Thomas and Braddock (1981) found that higher scoring students of both sexes tend to matriculate at four-year colleges, selective colleges, private colleges, and predominantly white colleges. This study, which uses the student rather than the institution as the unit of analysis, states that although the predominantly black colleges continue to graduate a disproportionate percentage of black students, they presently account for only one-third of black enrollment.

Desegregation in Higher Education: Alexander Astin and Colleagues

Alexander Astin and Robert Panos (1969), in a study of vocational and educational development of college students, make use of an input-output research model where student input data, student output data, and college environmental data are the categories of information. Student input data are seen as the student's abilities, achievements, family background, educational and career plans. Student output

data consist of the student's educational status and aspirations and career plans. College environmental data consist of administrative and environmental characteristics of the student's institutions. A total of 52 input measures and 28 output measures were developed based upon information provided by the students. Environmental measures were of two broad types: (1) the characteristics of the institution itself (its size, selectivity, permissiveness, etc.), and (2) special experiences within the college.

Among their findings are that TBIs tend to facilitate the desire to go on to graduate study and that black students are somewhat more likely to choose a career in health professions or in social sciences.

Astin's (1977) later work through the Cooperative Institutional Research Program (CIRP) was initiated at the American Council on Education in 1966 and is now conducted jointly by ACE and UCLA. As Astin notes, the task of evaluating how students are affected by their college is composed of three major undertakings: (1) understanding the meaning of student change; (2) developing student outcome measures; and (3) designing the analysis of college impact.

Astin identified student outcomes as being either affective or cognitive where the data are either psychological or

behavioral. In addition, Astin introduces a temporal dimension in that most colleges hope to produce long-term rather than short-term changes. The quality, or intensity, of the student's college experience can be measured in terms of student involvement in the college environment. High involvement refers to students who spend most of their time on campus, are committed to their studies, are actively involved in campus organizations, and interact frequently with faculty and other students. Astin further postulates a direct connection between involvement and persistence. He defines persisters as those students who complete a degree program within a specified time. Among full-time freshmen entering college for the first time, about half earn baccalaureate degrees within four years.

The most important environmental characteristic associated with college persistence, according to Astin, is living in a dormitory during the freshman year. Persistence is also enhanced by involvement in the campus environment, receiving major support from parents, and is reduced by attending a 2-year college and poor academic performance. The poorest persistence rates are also found in smallest (below 500) and moderately large (10,000 to 20,000) institutions. Further, black students, compared with non-blacks of similar ability, are more likely to persist and to enroll in graduate school, but they are less likely to graduate with honors.

Astin (1982) furthered his earlier work in his examination of minorities in American higher education. Among his key findings are that over the 1974-78 period, blacks in the 20-25 age range have a mean percentage high school dropout rate of 29.4 (N = 6,560) compared to a mean percentage dropout rate of 20-25 year old whites of 17.8 (N = 58,873). These figures reflect a potentially smaller proportion availability of black high school graduates for higher education. The mean percentages also indicate that blacks are nearly 1.7 times more likely to be high school dropouts than are whites.

On the other hand, Astin's data show a positive indicator for an output measure in relation to black students. In a comparison of bachelor's degree recipients and first-year graduate students, Astin's figures indicate that blacks have a higher ratio of first-year graduate school enrollments to bachelor's degrees received than do whites (.70 for blacks to .60 for whites) for 1975-76. These data imply that black graduates, as aggregate output of the institutional system, were more likely to go on to graduate education than were white graduates in 1975-76.

Turning again to input measures, Astin's data indicate that in relation to college admission test scores of high school seniors and anticipated major in college, white students achieve composite SAT scores that are generally 1.3

to 1.4 times higher than test scores of blacks. Astin's figures also indicate that as entering freshmen, blacks are overrepresented in only business and social sciences. Upon receipt of the baccalaureate degree, blacks are underrepsented in all fields. Severe problems of retention can be inferred from these data.

In relation to persistence and institutional type, black students are more likely to complete their degree at a four-year private college that is prestigious, selective, with generous educational and general expenditures per student, with high tuition and average faculty salaries. Astin reports a negative correlation between persistence and the student-faculty ratio.

Further, Astin notes that without exception, blacks attending colleges in the Northeast get higher grades, are less likely to drop out, and are more likely to be satisfied with their undergraduate experience than blacks attending institutions in other regions.

Williams' (1982) work on blacks in higher education, found a positive correlation between persistence and attending a black college in a 1975-77 sample ($N = 2,779$, $r = .14$, $p \leq .05$). She also found a positive correlation between persistence and prestige, selectivity, per-student expenditures, and tuition for 4-year college entrants. Further, past research has indicated that support from

scholarships and grants has a positive impact on persistence, whereas reliance on loans has a negative impact. In sum, Williams finds that blacks are most likely to persist to degree completion if they come from a relatively high socio-economic background, attend an integrated high school, make good grades in high school, perform well on aptitude tests, and develop good study habits. Blacks have a better chance of completing the degree if they initially enroll in four-year colleges or universities, especially in high quality institutions located in the Northeast region of the United States.

McNamara and Scherrei (1982) examined college women pursuing careers in science, mathematics and engineering in the 1970s, by race. Among blacks, females were more likely than males to report having "A" averages in high school. Black males and females were equally likely to report they were very well-prepared in mathematics and science in high school in 1975 and 1977. Black females were more likely than males to attend a university as college freshmen. However, black men were a little more likely than women to major in science. Half of black women who graduated with a major in physical sciences or mathematics had plans to major in this area at entry.

Black Students on White Campuses

Gamson and Arce (1978) trace the implications of increasing numbers of black students on white campuses, particularly in the post-1967 period. Their approach describes

the federal role, particularly in promoting legal desegregation of higher education, and its involvement in financial aid programs. The passage of the Higher Education Act in 1965, with provisions for a series of new financial aid programs, greatly accelerated the federal government's encouragement of equal access to higher education. The Higher Education Amendments revised some of the programs of the 1965 Act and added the Basic Educational Opportunity Grants (BEOG). Taking the philosophy and approach of the G.I. Bill, the new grants were based on the concept of entitlement. Gamson and Arc[illegible] go on to examine historical trend of black enrollment in higher education, white institution's responses to black students, faculty and administrative response to black students, and student response.

Peterson (1978) examines the environmental context affecting colleges and universities. These factors include local community characteristics and groups, competitive conditions, federal legislation and executive or judicial rulings, state legislation or state agency direction, state and federal funding, and other institutional support groups. Of the 13 schools examined in the larger study of which Peterson's work is part, all had external environments that were supportive of increased black enrollments or favorable internal predisposing factors.

Peterson and Davenport (1978) in examining institutional attractiveness for black students, found that the mean score for black students exceeded the mean score for all students on only the measures of good academic reputation of the

institution and the availability of a good program in preferred major. On the other ten measures of institutional attractiveness, the mean score for black students was less than that for all students.

Blackburn and Peterson (1978) examined administrative and faculty responses to an increase of black students. Their examination of factor loadings with zero-order correlations among the indices expressed an institutional ideology which asserts that there should be a high institutional priority on black issues, an emphasis on more academic support programs, and a commitment to affirmative action. In general, the authors found that administrators and faculty in the sample of 13 colleges and universities demonstrated essentially the same moderate social values, with administrators expressing stronger or more favorable views about minority issues.

Mingle (1978) in an examination of four universities on faculty and departmental response patterns found that faculty holding universal values about standards tended to view the long-range impact of minorities in negative terms ($r = -.35$). They also tended to be less inclined to assign their institution responsibility on race issues ($r = .29$). Universalism was also related to a belief that blacks should become fully integrated into the culture and organization of the institution ($r = .37$).

Gamson (1978) in an examination of racial climate at four universities found high levels of responsiveness to black students. The institution's responses to black students were related to an overall climate of concern with, and commitment to, dealing with racial issues.

Persistence, Attrition and Testing

A 1980 research report by the Institute for Study of Educational Policy analyzed student persistence and attrition rates, by race. The study also examined the relationship of Federal funds for black and non-black institutions. Eckland and Henderson (1981) found that independent of race, social class, or ability, men were somewhat more likely to go to college than women. However, women were more likely to graduate on schedule. Men were more likely to return if they dropped out. Gordon's 1976 study using linear correlations between high school percentile rank and test scores among black students concludes that the results raise the question of how ACT and SAT scores should be used in the admission process.

Morris, et al. (1981), in a study of the status of black Americans in higher education from 1970 to 1979, found a negative correlation between the level of selectivity and lack of progress for blacks. An Institute for Services to Education (1979) study examined the correlation between standardized college admissions tests and life achievements

of students attending historically black colleges. The findings show that despite low initial scores on standardized tests, study participants were able to achieve considerable educational attainment and career success. Miller, et al, (1977) in a study of the factors affecting the admission and enrollment of minority students at the twelve state universities in Ohio found that major factors affecting enrollment are geographic location, and the strength of the tutoring, counseling, and social, academic, and cultural programming services available to minority students.

Pfeifer and Sedlacek (1970), in a study of academic predictors for black and white students at the University of Maryland, found that SAT scores were correlated with grades about as highly for whites as for blacks. However, high school grades were not a valid predictor for black males. Coleman (1974) in a study examining the relationship between the level of achievement motivation and grades in psychology showed no correlation between the test scores on the Personality Questionnaire and grades in psychology courses. Coleman's sample consisted of black males and females from lower social class backgrounds. Reichard and Hengstler (1981) in a study of black and white students in a predominantly white university prior to entrance, while enrolled, and within one year after degree completion found a greater need for financial assistance on the part of blacks. Black students generally scored lower on SATs, and this difference in aptitude and achievement remained throughout the college years as evidenced by the difference in GPA for graduating seniors.

Institutional Issues

Williams, Gooden, et al. (1982) in a study of admissions criteria and the minority student found that four-year historically white colleges rank GPA, class rank, high school curriculum, academic curriculum and test scores as the top five criteria for admission. Public universities ranked the top five as GPA, academic curriculum, class rank, high school curriculum, and test scores, while private non-sectarian institutions ranked GPA, academic curriculum, high school curriculum, class rank and motivation. Public colleges viewed the top five criteria as GPA, class rank, high school curriculum, test scores, and academic curriculum. Black colleges (public and private) ranked the top five criteria as GPA, test scores, class rank, academic curriculum and high school curriculum. Private universities appear more likely to identify ethnic minorities for admissions purposes. However, minority students will continue to fare less well when evaluated by traditional measures, at least in the immediate future. Black colleges have led the way in admitting students who were deemed inadmissable to predominantly white colleges and developing them through supportive efforts into highly competitive college graduates.

Blackwell (1982) reminds us that at all levels of education, black Americans registered a more rapid rate of educational attainment than did white Americans. However, in 1979, the National Advisory Committee on Black Higher Education and Black Colleges and Universities reported that in 1977 there were more black dropouts between the ages of

18 and 24 than there were black college enrollees that year. As recently as 1979, only 13 percent of the most able black students as measured by performance on the SAT were enrolled in black institutions.

In his study of blacks in graduate and professional schools, Blackwell (1981) reminds us that despite gains made during the 1970s, there are danger signs ahead. These danger signs include declining or stabilizing black undergraduate enrollment as potential input to graduate and professional schools, a decrease in commitment to aggressive recruitment strategies, fall-out from the Bakke case which encourages some institutions to reduce their programs for minority students and to increase the weights assigned to objective admissions criteria when confronted with difficult choices, and opposition to minority student programs by the public and by influential special interest groups. Blackwell makes a number of recommendations aimed at enhancing the mainstreaming of outsiders into graduate and professional schools. A key ingredient in the mix of recommendations is the need to admit, retain, and graduate more black undergraduates, some number of which will then go on to graduate and professional schools, and then on to careers in the professions.

Willie and MacLeish (1978), in a study of priorities of presidents of black colleges, found that educational priorities ranked first, financial priorities second, and management priorities third. The educational priorities dealt with matters such as curriculum reform, faculty development,

improving the system for advising students, innovations in career education, and undergraduate concentration in the professions. In a study of financing the black college, Jones and Weathersby (1978) found that in 1970 state and local governments accounted for 69.7 percent of the educational and general income at black public institutions. In 1975, this proportion shrank to 56.9 percent. In contrast, state and local government accounted for only 3.6 percent of the income for operations at independent institutions in 1975, and only 1.5 percent in 1970. Tuition and fees, on the other hand, are an important source of funds for the independent sector and less important for the public sector. The state-assisted institutions spend, on the average, about twice as much as the independent colleges. On a per-student basis, the independent sector spends about one-third more per student on educational and general expenditures. Public black colleges spend a greater percentage of their funds on instruction than do those in the private sector. Bowles and DeCosta (1971) in a study of black higher education concluded that the black colleges are underpricing their services, which is to say they are charging insufficient tuition--especially the private colleges.

In on-going research on the dropout rate among blacks in graduate and professional schools, Allen (1983) offers findings which have relevance to the concerns of this study. Allen's research at six predominantly white universities suggests that the campus climate and support system may be

critical. He has identified three factors contributing to the attrition of blacks. These are faculty relations, social isolation, and the lack of adequate support services, such as financial aid.

Philosophy of Education

Finally, of importance in persistence among black students and institutional effectiveness are the norms and values of the institution. Norms and values of an undergraduate institution can perhaps be described as the philosophy of education of a particular institution. Spencer (1979) describes three philosophies of education. These are the philosophy of merit which holds the degree to signify an intellectual achievement, the philosophy of contract which considers the degree to be a reward for effort, and the philosophy of right, which considers the degree to be one of the rights of citizenship associated with the welfare state. It has been argued that BEOG grants, as a form of entitlement, have aided the shift of the philosophy of education to a philosophy of right. Astin (1982) states that public higher education has evolved from a limited low-cost, meritocratic system to one of open and potentially unlimited access for all citizens regardless of their ability to pay or their previous educational achievement. This change in federal policy--from the focus on "all who are

able" in the National Defense Education Act of 1958 to the concerns for "all who can benefit" in the Higher Education Act of 1965--led eventually to the entitlement provisions of the Pell Grant program established by the Education Amendments of 1972. Since 1965, federal policy has been primarily concerned with underwriting the individual costs of access and participation.

Public policy generally has focused on the issue of access to any post-secondary institution, assuming approximately equal effects and benefits of college attendance (Astin, 1982). Indeed, the state's interest in, and responsibility for educational access and opportunity may well conflict with traditional notions of academic quality, as represented by the philosophy of merit. The resolution of this dilemma of equal access and educational quality is just now becoming the subject of intense debate in higher education as reflected in efforts to raise minimal academic standards for admission in various states such as California and Massachusetts.

Data Collection

The data collection phase consists of three parts. Part one consists of data gathered on total undergraduate enrollment by race, total earned degrees by race, and available SAT information by race, for the 1972-73--1980-81 period. Enrollment and earned degree information was compiled for four-year institutions from published figures released by the U.S. Department of Education, Office for Civil Rights. Due to reporting requirements for institutions by race, more detailed and accurate figures are available for the study years 1976-77, 1978-79, and 1980-81, than for the study years 1972-73 and 1974-75. This caveat should be borne in mind in any analysis and interpretation of the data. Other data sources used in this phase include published figures from the National Center for Education Statistics (NCES), the 1981-82 Fact Book for Academic Administrators published by the American Council on Education (ACE), Trends and Patterns: A Study of Enrollment in Higher Education, 1970-79, published by ACE and NCES, and Blackwell's (1982) article on "Demographics of Desegregation." SAT data by race were compiled from the report on Profiles, College-Bound Seniors, 1981, published by the Admissions Testing Program of the College Board, and from available figures published by Astin in various places.

Once enrollment and earned degrees figures were compiled by race, for each available study year an effectiveness

quotient (EQ) score was calculated. Comparisons were then made for each study year, by racial group, as to the effectiveness of the universe of four-year undergraduate institutions in the production of baccalaureates. This aggregate index of effectiveness was a first step in determining the performance level of the universe of institutions over the study years in the production of students with bachelor's degrees. The aggregate EQ index also served at this point to indicate levels of persistence and problems in retention among different racial groups at the undergraduate level.

Part two consisted of selecting a sample of traditionally white institutions (TWIs) and traditionally black institutions (TBIs) in order to gather more detailed institutional data. The sampling plan was of a stratified design. Utilizing the Cooperative Institutional Research Program (CIRP) publications, The American Freshman: National Norms for Fall 1980, and for 1978, 1976, 1974, and 1972, which each contains a listing of cooperating institutions as a starting point, a sample for each study year was drawn using a random number table. This design yielded a sample consisting of 84 TWIs and 18 TBIs for each study year. The sample of TWIs was thus 4 percent of the universe, while the sample of TBIs was 17 percent of the universe. This design represents an oversampling of TBIs.

Once the sample was drawn, and a list of specific institutions (both TWIs and TBIs) was in hand, the U.S. Department of Education, Office for Civil Rights publications were consulted to derive enrollment and earned degree

figures for each institution in the sample for each available study year. A spread sheet was then created for each available study year with figures for each institution in the sample. Columns in the spread sheet contained the following information for each institution.

(1) Number of black students enrolled;

(2) Number of earned degrees by black students;

(3) Effectiveness quotient (EQ) score;

(4) Plus (+) or minus (-) sign, indicating whether the institution had an EQ score above or below the national norm EQ for black students;

(5) How the state ranked in terms of:

a) Relative cost of higher education;

b) Appropriations per student;

c) Adjusted appropriations per student;

d) Change in appropriations per student over 2-year period;

(6) Percent black student population in the institution;

(7) Percent black population in the state;

(8) Using (6) and (7) above, a determination of level of access, i.e., 'weak, limited', or 'approximate,' or 'equal,' from Blackwell (1981);

(9) Median black income in the state;

(10) Size of school in terms of total student population;

(11) Litigation status, i.e., whether or not the state is an Adams state;

(12) Presence or absence of a special admissions program;

(13) Presence or absence of a retention program.

From the spread sheets for each available study year, a top ten was calculated for all institutions with the highest EQ scores. Next a top five for TBIs was determined using the same method. Then, the number and percent of TWIs and TBIs above and below the national norm EQ was determined. Comparisons were then made between the institutional sample in Part Two and the universe of undergraduate institutions in Part One.

Next a research review was conducted in the attempt to identify at least twenty (20) studies that examined persistence among black undergraduates and/or institutional effectiveness among undergraduate colleges and universities. This review was organized along the lines of the input-output model of analysis used in the research.

A total of thirty-one (31) studies are included in the final research review out of over 100 studies initially identified for possible inclusion. Some of these 31 studies included in the research review overlap in the three components of the input-system-output model of analysis. Those studies included in the research review are denoted by an asterisk (*) in the References section at the end of this report. Among the studies included in the research review, fifteen (15) contain findings which can be grouped under the Input portion of the model. Twenty-six (26) contain findings which can be grouped under the System component; while five (5) contain results grouped under the Output component.

Data Reduction and Analysis

Using factor analysis techniques, correlation coefficients, multiple regression techniques, and a modified version of meta-analysis, the strongest factors in persistence are identified. These factors serve as the cause, or independent variable, while the effectiveness measure (EQ), is the effect, or dependent variable. The institutions in the sample of Part Two are organized according to their EQ score, and percentiles are created which serve to group high, medium, and low index institutions. The persistence factors are grouped in three categories. These categories are either institutional factors, individual factors, or contextual factors. Further, the factors are defined in terms of their malleability.

Characteristics of the most effective institutions (i.e., top ten for all, top five for TBIs) are then compared with the presence or absence of those institutional and contextual factors which are deemed most salient in persistence. Taking off from the most salient individual factors, an examination is then made of the type of student most likely to persist to degree completion.

This phase of the research concludes with the testing of ten (10) null hypotheses that relate to institutional effectiveness and persistence. These hypotheses are the following:

(1) There is no difference in effectiveness between TBIs and TWIs in producing black students with bachelor's degrees.

(2) There is no difference in effectiveness between public and private colleges and universities.

(3) There is no difference in effectiveness between public TBIs and private TBIs.

(4) There is no difference in the percent of black faculty between colleges and universities that are more effective in graduating black students than those that are less effective.

(5) There is no difference between more effective and less effective institutions in the likelihood of having special admissions programs.

(6) There is no difference between more effective and less effective institutions in the likelihood of having a retention program.

(7) There is no difference between more effective and less effective institutions in the quality of financial aid.

(8) SAT scores do not have a significant relationship to institutional effectiveness.

(9) Student-faculty ratios have no relationship to institutional effectiveness.

(10) Per-student expenditures have no relationship to institutional effectiveness.

The development and use of the effectiveness quotient should be considered exploratory. That is, in addition to answering particular questions about institutional effectiveness

and salient contributing factors, the effectiveness quotient will also raise questions that cannot be answered within the scope of this research project. In that sense, it is hoped that this measure and the methodology used in this research serves a heuristic function.

The research synthesis taken from studies identified earlier in this chapter yielded correlation coefficients, significance levels and sample sizes. For measures of persistence and effectiveness, correlations were averaged across the relevant studies. These values were then correlated with the combined EQ scores for the study years 1976-77, 1978-79, and 1980-81, and can be found in Tables 4.14, 4.15, and 4.16. Again, the EQ scores represent institutional measures of performance in graduating black students with BA and BS degrees. The total number of institutional cases for these three study years is 276, of which 47 are TBIs. Study years 1972-73 and 1974-75 were not included in this analysis due to the weakness of the data on earned degrees by institution. As noted earlier, thirty-one (31) research studies were used in the synthesis.

The factor analysis served to categorize salient factors into three groupings: institutional, contextual, and individual. Multiple regression techniques were then used to determine the variables under each of these factors which contributed most strongly to persistence and effectiveness. Again, the EQ score serves as the proxy variable in measuring institutional effectiveness and performance, and serves as a standard of persistence.

Meta-Analysis

There are three generally accepted indices of overall treatment impact in synthesizing research outcomes. These indices include vote counting, averaging effect sizes, and combining significance tests. The index of averaging effect sizes is used in an attempt to ascertain the relative impact of institutional, contextual, and individual factors upon persistence and effectiveness. The goal of this phase of the analysis is to build upon the findings of the correlational studies and the multiple regression techniques in order to attempt to rank those factors considered most salient in contributing to institutional effectiveness. This three-pronged method of analysis is undertaken in a step-by-step fashion with the goal of ranking the factors in that policy studies are strengthened through an attempt to identify and rank factors of concern around a particular issue of public policy. The research goal and related policy objective is to attempt to determine whether institutional, contextual, or individual factors are most likely to enhance institutional effectiveness in the production of black baccalaureates.

As with the use of the EQ measure, this particular approach to data reduction and analysis should be considered exploratory. It is hoped this approach to analyzing institutional effectiveness can serve a heuristic function for other educational researchers interested in the question of factors contributing to the production of black baccalaureates.

The report concludes with a section on policy implications. This section examines "what makes effective institutions effective" from a policy standpoint, and what it is that other colleges and universities can adopt for blacks within their particular institutional context. That is, some factors which contribute to institutional effectiveness are more malleable than others in terms of policy implications. For those more malleable factors, how can less effective institutions enhance these factors within their own context, and what are costs and benefits associated with such an approach?

Chapter 3

INSTITUTIONAL EFFECTIVENESS IN HIGHER EDUCATION

The aggregate undergraduate student enrollment and earned degree figures for the study years are used to arrive at an overall effectiveness measure. These 'national norms' of institutional effectiveness reflect the performance level of higher education during the decade of the 1970s. They also indicate degrees of persistence on the part of undergraduate students within the institution of higher education during the decade under consideration in this research.

More detailed undergraduate enrollment and earned degree data exist for the academic years 1976-77, 1978-79, and 1980-81, than for the academic years 1972-73 and 1974-75. For the latter two academic years, estimation procedures are used to arrive at figures for earned degrees by race. For all five academic years it is possible to derive an index of effectiveness by race. However, this index is more accurate for 1976-77, 1978-79, and 1980-81, due to the greater detail in the reporting requirements imposed on colleges and universities for these academic years in relation to earned degrees by race.

The aggregate effectiveness quotient, or the national norm of effectiveness, provides data as to the performance level of higher education in terms of graduating black students. In addition, this national norm provides a comparison by race (with a particular focus on blacks, whites, and Asians) of the performance level achieved by undergraduate institutions over the 1972-73 to 1980-81 period.

The national norm of effectiveness can be used as a benchmark in determining whether a particular college or university in the institutional sample of TWI or TBI is above or below the norm. It is also possible to determine the number and percent of all institutions, as well as TBIs, which fall above or below the norm for a given academic year. Comparisons can then be made between TBIs and TWIs in order to ascertain which type of institution has been more effective in a given academic year, and over the decade under study.

This section focuses on institutional effectiveness starting with the total population of undergraduate institutions and then comparing this universe with a sample of undergraduate institutions. This sample is drawn from the universe of nearly 2000 four-year colleges and universities, of which 105 are TBIs. The institutional sample was drawn in such a way as to yield a sample size consisting of eighty-four (84) TWIs and eighteen (18) TBIs.

Examining the national norms of effectiveness by race over the 1972-73 to 1980-81 period indicates a trend of declining institutional effectiveness in relation to blacks, whites, and Asians. As Table 3.1 shows, for all three racial groups there was a decline in institutional effectiveness in graduating undergraduate students. The impact of institutional retrenchment and consolidation in higher education over the period of study probably contributes to this decline. The consolidation and contraction which proved

Table 3.1: Effectiveness Quotient (EQ) Scores for B.A., B.S. Degrees by Selected Race, Selected Years and Total--All Institutions Combined

Year	Black	White	Asian	National Norm
1972-73[a]	.10	.14	.12	.13
1974-75[a]	.08	.13	.12	.12
1976-77[b]	.07	.12	.09	.11
1978-79[b]	.10	.13	.11	.13
1980-81[b]	.07	.11	.09	.08

[a]Detailed racial data on earned degrees by race not available. Numbers are based on estimation procedures from years with racial data.

[b]Based upon OCR enrollments and earned degrees by race.

Source: U.S. Department of Education, Office for Civil Rights. Racial, Ethnic and Sex Enrollment Data from Institutions of Higher Education, Fall 1972, 1974, 1976, 1978, 1980. U.S. Department of Education, Office for Civil Rights. Bachelor's Degrees Conferred by Institutions of Higher Education by Race, Ethnicity and Sex: Institution, State, and Nation, 1976-77, 1978-79, 1980-81.

necessary during the 1970s reduced or eliminated several student support programs at both the institutional and societal levels.

The numbers in Table 3.1 also reveal a decline in the ability of black, white, and Asian undergraduates to persist in obtaining a bachelor's degree. One salient factor in persistence to an undergraduate degree is the ability to finance one's education through scholarships, not loans. Retrenchment in higher education at the societal and institutional levels reduced the volume of scholarship aid available. Students ordinarily eligible for scholarship aid were forced to turn to loans in order to finance their undergraduate education. Increasing inflation and interest rates, and a generally recessive national economy rendered loans a risky proposition for both the student and the lending institution.

One constant over the 1972-73 to 1980-81 time period is the rank order of effectiveness by racial group. That is, in each year under study, and for the entire time period under examination, undergraduate institutions were more effective in graduating Asian students than black students. In each academic year under study except for 1980-81, the effectiveness quotient (EQ) for black students was consistently less than the national norm.

Table 3.1 indicates a declining trend in persistence among black undergraduates in all four-year institutions,

except for the 1978-79 academic year where there was a noticeable increase over 1976-77. However, there was a significant decrease between 1978-79 and 1980-81. The overall declining trend signals a problem in retention.

As a comparison to these EQ scores for all four-year institutions, let us examine Blackwell's (1982) figures for full-time B.S. in engineering enrollment programs for black students for all institutions and B.S. engineering degrees for black students for all institutions for 1972-73, 1974-75, 1976-77, and 1978-79.

Table 3.2: Effectiveness Quotient for B.S. in Engineering Enrollment/Earned Degrees for Black Students for Selected Years--All Institutions Combined

	(a)	(b)	(c)	(d)	(e)	(f)
Year	Total Black Student Enrollment	Percent Black of Total	Total B.S. Awarded Black Students	Percent Black of Total	Black Student EQ	All Races EQ
1972-73	5,508	3.0	657	1.5	0.12	0.22
1974-75	6,827	3.4	734	2.0	0.11	0.19
1976-77	9,828	3.8	844	2.1	0.09	0.16
1978-79	12,954	4.2	901	2.0	0.07	0.17

Source: James E. Blackwell, "Demographics of Desegregation", in Race and Equity in Higher Education, American Council on Education, 1982.

As Blackwell notes, black undergraduate interest in the field of engineering has expanded enormously within the past decade. As shown in Table 3.2, the absolute number of black students enrolled in engineering more than doubled

between 1972 and 1978. The percent of black students enrolled in engineering increased consistently between 1972 and 1978. The total B.S. degrees awarded to black students in engineering increased by a factor of 1.4 times between 1972 and 1978. However, the EQ scores in column (e) of Table 3.2 show a steady decline. This measure indicates an increasingly serious problem of retention among black students in engineering.

This problem of retention is also reflected in the EQ scores for black students in Table 3.1. That is, Table 3.1 shows a steady decline in EQ scores, except for 1978-79. The EQ scores for black students in engineering as reported in Table 3.2 are higher than for black students in all fields as reported in Table 3.1, except for 1978-79. For all races, the EQ scores for engineering students are consistently higher than the EQ scores for all fields, with the smallest deviation being in 1978-79.

Thus, for engineering and all other fields, the decade of the 70s has seen an increase in the numbers of black students enrolled and graduated. However, this seemingly positive trend is overshadowed by declining EQ scores signalling serious problems of retention. This situation suggests something akin to a "revolving door" policy by colleges and universities in relation to black students. That is, there seem to be problems in the institutional system in relation to issues of persistence on the part of black students.

Astin's 1982 educational pipeline indicates that 83 percent of whites graduate from high school while 72 percent of blacks graduate from high school. Of this number, 38 percent of whites, and 29 percent of blacks, enter college. Finally, 23 percent of whites and 12 percent of blacks complete college.

Thus, whites are 1.2 times more likely to graduate from high school than are blacks. They are 1.3 times more likely to enter college than blacks, yet are 1.9 times more likely to complete college than are blacks. The fact that whites are nearly twice as likely to complete college than are blacks suggests the importance of structural factors over individual factors.

Among the structural factors contributing to this significant difference in college completion rates is the median income of black families in relation to white families. In 1972, the median income (in 1979 dollars) for white families was $20,038, while for black families the median income was $11,909. The median income for black families in 1972 was 59 percent of the median white family income. This median family income gap of 41 percent has remained constant since 1972, increasing from an income gap of 39 percent in 1970.

Another factor is the generally higher unemployment rates of blacks in the labor force. In 1972, the white unemployment rate was 5.0 percent, while for blacks the figure was 10.0 percent. As Table 3.3 indicates, blacks in the

labor force were nearly twice as likely to be unemployed than whites over the 1972-1980 time period.

Table 3.3:

Annual Average Unemployment Rates by Race[a]
(in percentage)

Year	White	Black and Other Races[b]	B/W Ratio[c]
1972	5.0	10.0	2.00
1974	5.0	9.9	1.98
1976	7.0	13.1	1.87
1978	5.2	11.9	2.29
1980	6.3	13.2	2.10

a. Adapted from Unemployment Rates, by Race and Kind of Workers, Selected Years, 1950-1980, 1981-82 Fact Book for Academic Administrators, American Council on Education, 1981, p. 41.

b. Blacks make up over 90 percent of this category. In addition, the unemployment rate for blacks tends to be higher than other races in this category.

c. This is ratio of black and white unemployment rates.

Source: 1981-82 Fact Book for Academic Administrators, American Council on Education, 1981.

Black families thus have a significant median income gap in relation to whites, and black workers are significantly more likely to be unemployed than white workers. During a period of institutional retrenchment in higher education, these factors conspire to put financial pressures on the average black undergraduate such as to make it close to twice as likely that white undergraduates will complete college.

Further, private colleges and universities tend to be more effective in graduating black undergraduates than are public institutions of higher education. However, the majority of black students are enrolled in public colleges and universities. It is significantly less expensive to attend public colleges and universities as indicated in Table 3.4. For all students, it is more than twice as expensive to attend a private college or university. This difference particularly affects black undergraduates who are less likely to have access to the resources to afford a private education. Black students are thus more likely to attend a public institution.

Table 3.4: Average Annual Student Charges, by Control of Institution, 1972-73 - 1980-81[a]

	Average Student Charges for Tuition, Fees, Room and Board[b]		Indexes for Average Student Charge (1967-68 = 100)		Consumer Price Index[c]
Year	Public	Private	Public	Private	
1972-73	1,458	3,038	137.0	137.8	126.5
1974-75	1,617	3,386	152.0	153.6	151.2
1976-77	1,803	3,898	169.5	180.9	172.3
1978-79	2,009	4,477	188.8	203.0	202.2
1980-81	2,584	5,608	242.9	254.3	253.3

a. Adapted from Average Annual Student Charges, by Control of Institution, 1965-66 - 1980-81. 1981-82 Fact Book for Academic Administrators, American Council on Education, 1981, p. 132.

b. Tuition, required fees, room and board only. Does not include estimates for books, supplies, personal expenditures, and so forth.

c. CPI converted to an academic year by averaging contiguous years and converting to 1967-68 = 100.

Source: 1981-82 Fact Book for Academic Administrators, American Council on Education, 1981.

A comparison of TWIs, TBIs, and all institutions combined, shows that over the period 1972-73 to 1980-81, TBIs have been more effective in graduating black undergraduates than have TWIs. This comparison is derived from the institutional sample drawn from the universe of colleges and universities in the United States. For each institution in the sample, an institutional EQ was computed and compared with the national norm EQ. A plus or minus value was assigned to each institution based upon its EQ score in relation to the national norm. Table 3.5 summarizes the comparisons for each year under study.

Table 3.5: A comparison of Institutional EQ with National Norm EQ, 1972-73 - 1980-81

	All		TBIs		TWIs	
Year	N	%	N	%	N	%
1972-73[a]	+ 55	56	11	69	44	53
	- 44	44	5	31	39	47
1974-75[a]	+ 52	55	10	63	42	54
	- 42	45	6	37	36	46
1976-77[b]	+ 66	73	16	94	50	68
	- 25	27	1	6	24	32
1978-79[b]	+ 55	58	10	67	40	54
	- 39	42	5	33	34	46
1980-81[b]	+ 79	87	15	100	64	84
	- 12	13	0	0	12	16

a. As noted earlier, the figures for 1972-73 and 1974-75 are based on estimates of earned degrees by race for each institution, and for the aggregate.

b. Enrollment and earned degrees data is based on U.S. Department of Education, Office for Civil Rights published figures.

Source: U.S. Department of Education, Office for Civil Rights, Racial, Ethnic and Sex Enrollment Data From Institutions of Higher Education, Fall 1972, 1974, 1976, 1978, 1980; U.S. Department of Education, Office for Civil Rights; Bachelor's Degrees Conferred by Institutions of Higher Education by Race, Ethnicity and Sex: Institution, State and Nation, 1976-77, 1978-79, 1980-81.

A closer examination of Table 3.5 indicates that in 1972-73, 69 percent of TBIs were above the national norm, while 53 percent of TWIs were above the national norm. In 1974-75, 63 percent of TBIs were above the national norm, while 54 percent of the TWIs were above the national norm. In 1976-77, 94 percent of TBIs were above the national norm, while 68 percent of TWIs were above the national norm. In 1978-79, 67 percent of TBIs were above the national norm, while 54 percent of TWIs were above the national norm. In 1980-81, fully 100 percent of TBIs were above the national norm, while 84 percent of TWIs were above the national norm. Thus, for the decade under study, TBIs have consistently outperformed TWIs in graduating black students.

Chapter 4

MOST EFFECTIVE COLLEGES AND UNIVERSITIES

Background

This chapter examines the most effective colleges and universities in graduating black undergraduates over the period 1972-73 to 1980-81.

A top ten is created for those institutions with the highest EQ index. This ranking is analogous to the top ten for athletic teams, only the focus here is on effectiveness in graduating black undergraduates. Institutions included in this ranking must have a black student enrollment of at least fifty for the academic year under consideration.

The top ten ranking reflects all institutions in the sample of colleges and universities. A second ranking of the top five TBIs is also included. In some years there are TBIs included in the top ten of all institutions. Generally, the top ten is dominated by TWIs, and particularly by TWIs in the Northeast.

Again, these rankings are a function of an institution's score on the EQ index. The institutions included are those drawn from a representative sample of all colleges and universities in the United States for each academic year under study.

Once the top ten and top five TBIs are established, factors contributing to the effectiveness of these institutions are examined. That is, the concern is with reasons why a particular institution is effective in graduating black

students. These factors are institutional in nature, and characteristics of effective institutions are identified and described. Much of this analysis is a product of a synthesis of research findings relating to persistence among undergraduates. Persistence is seen as a function of particular institutional characteristics in conjunction with individual characteristics which work together to motivate the black student to complete the BA or BS degree. The concern with student characteristics implies that there is an ideal type black student most likely to persist to the degree.

Finally, this section examines the ten major hypotheses to be tested through the data available. All this information taken together provides a sense of those institutions that are most effective in graduating black students for each year of study and in aggregate, and the type of student most likely to succeed. The research synthesis provides reasons why some institutions are more effective, and why some students are more likely to succeed.

Academic Years 1972-73 and 1974-75

As noted earlier, detailed institutional figures by race are not fully available for 1972-73 and 1974-75. Estimation procedures are used through reverse extrapolation methods using the 1976-77 academic year as the baseline. Each of the 84TWIs and 18TBIs in the 1976-77 sample are examined using a formula taking into account changes in the state population and the ratio of black students enrolled

in each institution to the percent black in the state population to arrive at adjusted figures in order to estimate the EQ score. The rankings for 1972-73 and 1974-75 should be interpreted with this caveat in mind. Only the EQ scores for 1972-1973 and 1974-1975 will be reported here. However, more weight should be accorded the 1976-77, 1978-79, and 1980-81, rankings in determining trends in institutional effectiveness.

Table 4.1 Top Ten Colleges and Universities in the Production of Black Baccalaureates, 1972-73

	Institution	State	EQ
1.	Dartmouth	NH	0.321
2.	Simmons College	MA	0.317
3.	Harvard	MA	0.286
4.	Morehouse	GA	0.273
5.	Yale University	CT	0.261
6.	Springfield College	MA	0.252
7.	Southern University	LA	0.243
8.	Connecticut College	CT	0.231
9.	Notre Dame	IN	0.223
10.	Rice University	TX	0.217

Table 4.2: Top Five Traditionally Black Institutions in the Production of Black Baccalaureates, 1972-73

	Institution	State	EQ
1.	Morehouse College	GA	0.273
2.	Southern University	LA	.243
3.	Fisk University	TN	.233
4.	South Carolina State	SC	0.197
5.	Tuskegee Institute	AL	0.177

Source: U.S. Department of Education, Office for Civil Rights. Racial, Ethnic and Sex Enrollment Data from Institutions of Higher Education, Fall 1972, 1974.

Note: TWIs: N=83/TBIs: N=16

Table 4.3: Top Ten Colleges and Universities in the Production of Black Baccalaureates, 1974-75

	Institution	State	EQ
1.	Harvard	MA	0.279
2.	Simmons College	MA	0.276
3.	Dartmouth	NH	0.266
4.	Yale University	CT	0.260
5.	East Texas State	TX	0.248
6.	Rice University	TX	0.236
7.	Southern University	LA	0.229
8.	Notre Dame	IN	0.223
9.	Connecticut College	CT	0.221
10.	Morehouse	GA	0.217

Table 4.4: Top Five Traditionally Black Institutions in the Production of Black Baccalaureates, 1974-75

	Institutions	State	EQ
1.	Southern University	LA	0.229
2.	Morehouse College	GA	0.217
3.	Tuskegee Institute	AL	0.183
4.	Fisk University	TN	0.181
5.	Alabama A & M	AL	0.152

Source: U.S. Department of Education, Office for Civil Rights. Enrollment Data, 1974-75.
Note: TWIs: N=78/TBIs: N-16

Included in the top ten ranking for 1972-73 are six institutions in New England, three in Massachusetts, two in Connecticut, and one in New Hampshire. There are two TBIs in the top ten. The top ten is dominated by private, prestigious, and selective institutions. Of the top ten, six have EQ scores of .25 or above, signalling a high degree of effectiveness.

Of the TBI top five, only one has an EQ score of .25 or above. However, all those in the top five are considerably higher than the national norm EQ for black students in 1972-73 of .10. The top five TBIs also exceed the 1972-73

national norm EQ for white students, Asian students, and for the universe of students as reported in Table 3.1.

The national norm EQ score for black students declined between 1972-73 and 1974-75 from .10 to .08. This decline in effectiveness was also reflected in the scores of those institutions in the top ten and top five, as reflected in Tables 4.3 and 4.4.

Again, New England colleges and universities dominate the top ten with five institutions. Of these, two are in Massachusetts, two in Connecticut, and one in New Hampshire. Perhaps surprisingly, Texas placed two institutions in the top ten. Morehouse remained one of two TBIs in the top ten, but took a dive from fourth to tenth place. As in 1972-73, private, prestigious, and selective institutions dominated the top ten.

Academic Years 1976-77/1978-79/1980-81

The most effective institutions for the 1976-77 academic year consist of a ranking topped by Simmons College, a private school in Boston, Massachusetts. As seen in Table 4.5, the top ten consists of six institutions in the New England states, three in Massachusetts, two in New Hampshire, and one in Connecticut. Further, private institutions dominate the top ten. There is only one TBI in the top ten.

Table 4.5: Top Ten Colleges and Universities in the Production of Black Baccalaureates, 1976-77

Institution	State	EQ	Black Student Enrollment	Black Student Earned Degrees
1. Simmons College,	MA	0.311	148	46
2. New Hampshire College,	NH	0.305	59	18
3. Chaminade,	HI	0.284	88	25
4. Dartmouth,	NH	0.279	247	69
5. Springfield College,	MA	0.278	133	37
6. Rice University,	TX	0.260	104	27
7. Yale University,	CT	0.257	245	63
8. Philander Smith,	AK	0.249	450	112
9. Harvard,	MA	0.243	441	107
10. Miami U,	OH	o.242	219	53

Table 4.6: Top Five Traditionally Black Institutions in the Production of Black Baccalaureates, 1976-77

Institution	State	EQ	Black Student Enrollment	Black Student Earned Degrees
1. Philander Smith,	AK	0.249	450	112
2. Fisk University,	TN	0.238	1,186	282
3. Lane College,	TN	0.200	684	137
4. South Carolina State,	SC	0.164	2,894	474
5. Alabama A&M,	AL	0.139	2,735	379

Note: TWIs: N=74/TBIs: N=17

Table 4.7: Top Ten Colleges and Universities in the Production of Black Baccalaureates, 1978-79

Institution	State	EQ	Black Student Enrollment	Black Student Earned Degrees
1. Harvard,	MA	0.444	243	108
2. Athens State College,	AL	0.356	73	26
3. Southern U.,	LA	0.337	2,681	904
4. Simmons,	MA	0.289	135	39
5. Connecticut C.,	CT	0.278	54	15
6. Dartmouth,	NH	0.270	259	70
7. CUNY-Brooklyn,	NY	0.219	2,975	650
8. East Texas State,	TX	0.217	921	200
9. Notre Dame,	IN	0.210	167	35
10. Yale,	CT	0.209	283	59

Table 4.8: Top Five Traditionally Black Institutions in the Production of Black Baccalaureates, 1978-79

Institution	State	EQ	Black Student Enrollment	Black Student Earned Degrees
1. Southern U.,	LA	0.337	2,681	904
2. Fisk U.,	TN	0.202	1,074	217
3. Tuskegee Institute,	AL	0.165	2,599	430
4. South Carolina State,	SC	0.163	2,872	468
5. Lane College,	TN	0.163	669	109

Note: TWIs: N=74/TBIs: N=17

Table 4.9: Top Ten Colleges and Universities in the Production of Black Baccalaureates, 1980-81

Institution	State	EQ	Black Student Enrollment	Black Student Graduates
1.	Athens State Coll.,	AL	0.712	52	37
2.	New Hampshire Coll.,	NH	0.605	215	130
3.	Harvard,	MA	0.449	216	97
4.	Simmons,	MA	0.400	100	40
5.	St. Mary's C.,	KS	0.382	55	21
6.	Univ. of Miami,	FL	0.267	667	178
7.	Dartmouth,	NH	0.258	275	71
8.	St. John's,	NY	0.257	622	160
9.	Rice U.,	TX	0.227	88	20
10.	East Texas State,	TX	0.226	848	192

Table 4.10: Top Five Traditionally Black Institutions in the Production of Black Baccalaureates, 1980-81

Institution	State	EQ	Black Student Enrollment	Black Student Earned Degrees
1.	Bishop C.,	TX	0.201	658	132
2.	South Carolina State,	SC	0.176	3,084	543
3.	Lane College,	TN	0.141	747	105
4.	Alabama A&M,	AL	0.137	2,655	365
5.	Florida A&M,	FL	0.130	4,499	587

Source: U.S. Department of Education, Office for Civil Rights. Enrollment and Earned Degrees Data, Institutions of Higher Education. Race, Ethnicity and Sex. 1976-77, 1978-79, 1980-81.

Note: TWIs: N=76/TBIs: N=15

Institutions with an EQ score of .25 or above are either very effective in graduating black students or there are variations in the enrollment pattern that bear examination.

Among TBIs, Table 4.6 provides a ranking of the top five institutions in graduating black undergraduates. The institutional sample of TBIs consists of eighteen schools.

Of the TWIs, in 1976-77 seven of the top nine have EQ scores of .25 or above. Of the TBI, only Philander Smith has an EQ of .25 or above. It should be borne in mind that of those who enter college, whites are much more likely to complete the baccalaureate within the traditional four-year period than are minority students (HERI, 1982). According to the National Longitudinal Study, 34 percent of the whites, 24 percent of the blacks, 16 percent of the American Indians, and 13 percent of the Hispanics who entered college in 1972 had completed the baccalaureate degree by 1976.

The data in Tables 4.5 and 4.6 suggest that black students who attend particular types of institutions are more likely to complete the degree in four years. Looking at baccalaureate completion rates beyond the four year span, one finds that approximately 56 percent of white freshmen and 51 percent of black freshmen eventually receive the bachelor's degree. The average time of completion is five years.

In 1976-77, the top five ranking TBIs had a total black student enrollment of 7,949, of which 1,384 graduated. This compares with an enrollment of the top nine TWIs of 1,684 black students, of which 445 graduated. The EQ score for the TBI top five was 0.174 as compared with a TWI top nine score of 0.264. However, these figures suggest that TBIs are doing the job they were set up to accomplish, that is to enroll and graduate significant numbers of black students otherwise denied access to higher education, albeit, at a lower level of effectiveness than the top ranking TWIs.

In the 1978-79 academic year, Harvard College moved into the top position in terms of institutional effectiveness in the production of black baccalaureates. Harvard moved from ninth in 1976-77 to first in 1978-79. Simmons College fell from first to fourth. Southern University moved into the top ten in third place. Again, New England private institutions dominated the top ten, with two from Massachusetts, two from Connecticut, and one in New Hampshire, as seen in Table 4.7.

Among the TBIs, Southern ranked at the top, Fisk remained second, and South Carolina State remained in fourth place. Philander Smith slipped out of the top five, while Lane College dropped from third to fifth.

Again, only one TBI had an EQ score above .25, while five of nine TWIs in the overall top ten scored above .25. The latter is a drop in the number of TWIs with an EQ score above .25 from the total of seven in 1976-77.

Among the TWIs in the top ten, Harvard saw slightly more than two in five black students enrolled graduate in 1978-79. Harvard's move to the top of the rankings between 1976-77 and 1978-79 was brought about primarily by a steep decline in black student enrollment, while the number of black graduates remained constant.

From among the top five TBIs in 1978-79, Southern saw one in three of its black student population graduate, Fisk had one in five, Tuskegee, South Carolina State and Lane all had approximately one in eight graduate.

Of those TWIs in the top ten, Yale had the lowest proportion, one in five, of those enrolled who graduated. For Yale, this represented a slip from one in four in 1976-77. However, unlike Harvard, Yale did experience a slight increase in black undergraduate enrollment. Simmons experienced a slight decline in both enrollment and in its EQ score. Dartmouth witnessed a slight increase in enrollment and a minor decrease in its EQ scores.

In 1978-79, the TBIs top five enrolled 9,895 black undergraduates and graduated 2,128 of them. Of the nine TWIs in the overall top ten, there were 5,110 black undergraduates of whom 1,202 graduated. The EQ for the TBIs top five in 1978-79 was 0.215 as compared to the top nine TWIs EQ score of 0.235. The top five TBIs saw an increase in their effectiveness score between 1976-77 and 1978-79, while the top nine TWIs witnessed a decline, thus closing the aggregate EQ score of the top institutions considerably.

The 1978-79 academic year thus saw the top ranking TBIs continue to pursue their established mission of enrolling and graduating black students. In implementing ing this mission, the top TBIs improved their effectiveness considerably since the 1976-77 academic year, while the top TWIs declined slightly in effectiveness.

The 1980-81 academic year saw Athens State College in Alabama move to the top position from number two in 1978-79. This change was brought on mainly by a steep reduction in enrollment along with an increase in the number of graduates. New Hampshire College climbed back into the top ten after being absent in 1978-79. The 1976-77 to 1980-81 period witnessed a radical increase in both black student enrollment and graduates at New Hampshire College.

Again, New England dominated the rankings with four institutions in the top ten. Of these institutions, two were in Massachusetts and two were in New Hampshire. In contrast to the previous two academic years, a TBI did not rank in the top ten. As Table 5.9 indicates, there was quite a range in EQ scores among the top ten institutions.

Of the top ten, eight had EQ scores of .25 or better. Harvard remained in the top ten, slipping from first to third, although its EQ score increased very slightly. However, Harvard's black student enrollment continued to decline. Simmons remained in fourth place, with an increase in its EQ, but a decrease in its enrollment. Dartmouth slipped from sixth to seventh between 1978-79 and 1980-81, yet experienced an increase in its black student enrollment.

Among the TBIs, Bishop College moved into the top position in 1980-81. South Carolina State moved from fourth place to second place, while Lane College moved from fifth to third. Not one TBI in the top five had an EQ score of .25 or above.

The aggregate EQ score for the top five TBIs slipped to 0.149 in 1980-81, while the top ten TWIs experienced an increase in EQ score to 0.302. Concurrently, the top five TBIs enrolled 11,643 students and graduated 1,732, while the top ten TWIs enrolled 3,138 black students and graduated 946. The TBIs continued their mission of providing access to black undergraduates, albeit, at a rate considerably less effective than the top ten TWIs, and at a rate of lesser effectiveness than in either 1976-77 or 1978-79.

Most Consistent Institutions, 1972-73 to 1980-81

In examining the trends in institutional effectiveness in the production of black baccalaureates over the 1972-73 to 1980-81 period, Table 4.11 and Table 4.12 summarize the top ten overall and the top five TBIs, respectively. The tables indicate the ranking as a function of years in the top ten and the mean rank over that period of time. The final column in each table indicates the rank, irrespective of the number of years in the top five or top ten. However, the number of years in the top ranking provides a measure of consistency in performance.

Table 4.11: Top Ten Institutions in Effectiveness, 1972-73 to 1980-81

Institution	State	Years In Top Ten	Mean Rank	Rank Controlling for Years in Top Ten
1. Simmons College[a]	MA	5	2.6	2
2. Harvard College[a]	MA	5	3.4	4
3. Dartmouth College[a]	NH	5	4.2	5
4. Yale University[a]	CT	5	6.5	7
5. Rice University[a]	TX	4	7.8	9
6. East Texas State	TX	3	3.3	3
7. Southern Univ.	LA	3	5.7	6
8. Connecticut College[a]	CT	3	7.3	8
9. Notre Dame Univ.[a]	IN	3	8.7	10
10. Athens State C.	AL	2	1.5	1

[a] Private Institutions.

Source: U.S. Department of Education, Office for Civil Rights. Enrollment Data and Earned Degrees Data, 1972-79 to 1980-81.

Five of the top ten institutional performers for the five academic years in the study period are located in New England, two in Massachusetts, two in Connecticut, and one in New Hampshire. There is one TBI in the top ten. Private, prestigious, and selective institutions dominate the rankings.

Turning now to the top five TBIs in terms of academic performance over the 1972-73 to 1980-81 period yields the following information.

Table 4.12: Top Five TBIs in Effectiveness, 1972-73 to 1980-81

Institution	State	Years in Top Five	Mean Rank	Rank Controlling for Years in Top Ten
1. Fisk University[a]	TN	4	2.8	2
2. South Carolina State	SC	4	3.5	3
3. Southern Univ.	LA	3	1.3	1
4. Tuskegee Institute[a]	AL	3	3.7	5
5. Lane College[a]	TN	3	3.7	5

[a]Private Institution

Source: U.S. Department of Education, Office for Civil Rights. Enrollment Data and Earned Degrees Data, 1972-73, 1980-81.

Fisk and South Carolina State are most consistent in that four of five academic years they were in the top five. However, Southern had the highest mean ranking, and the most appearances in the overall top ten ranking.

As rankings for each study year and the aggregate indicate, the 90th percentile is dominated by TWIs which are private, prestigious, and selective. The TBIs are clustered from the 75th to 90th percentile, while the bulk of TWIs are below the 75th percentile. This implies that TBIs are generally more consistent performers in terms of institutional effectiveness in the production of black baccalaurates than are TWIs.

Salient Factors and Institutional Characteristics

The research review identified the most salient factors in persistence to a baccalaureate degree among black students.

The author made note of the sample size, the statistical results, and the p value, in determining those factors which seem to have the most impact on persistence and institutional effectiveness. A shortcoming in this regard is that for each available study, the mean, standard deviation, and reliability of each variable was not published (Hunter, Schmidt, and Jackson, 1982).

In addition, all of the studies utilized are published in one form or another. Light (1982) reminds us that there is a publication bias. That is, several scientists have speculated that research findings of a relationship between variables that do not reach statistical significance are less likely, all other things equal, to be accepted for publication. Greenwald (1975) conducted a survey to determine if such speculation is grounded in fact. He surveyed both authors and reviewers of articles submitted to the Journal of Personality and Social Psychology. He found that researchers carrying out a study predict that their data will lead them to reject their null hypothesis. This is true 80 percent of the time. A second is that if a study leads to rejecting the null hypothesis of no treatment effect or no relationship between variables, researchers are more than eight times as likely to immediately submit their results for journal publication than if their study does not lead to rejection of the null hypothesis. A third is that if the findings from the first test of an

hypothesis do not allow rejection of the null hypothesis, the average researcher is more than four times as likely to simply give up the problem than if the first findings allow the null hypothesis' rejection.

Overall, these survey results were very consistent between authors and reviewers. The results make a strong case to support the notion of a publication bias that reviewers need to keep in mind. A further caveat in the research review conducted for this study on persistence and institutional effectiveness is that given time and budget constraints, the author selected only statistically significant findings in the published work.

Correlational studies served as the initial focal point for the 'modified' meta-analysis conducted by the author. Attention was paid to correlations and their p value ($p \leq .05$) in identifying salient factors. Next, factor analytic techniques were used to group the independent variables. Factor analysis of the salient independent variables yielded three categories of factors. These categories are defined as Institutional, Individual, and Contextual. Table 4.13 identifies these three categories, and also defines the factors in terms of their malleability.

Of the eleven salient factors in the Institutional category, six are seen to have some degree of malleability. In the Individual category, of the eight salient factors, five are seen to have some degree of malleability. Of the three salient Contextual factors, one is seen to have some

Table 4.13: Most Salient factors in Persistence to the Baccalaureate Degree

FACTOR	
Institutional	**Individual**
1. Prestige	1. Female
2. Selectivity[a]	2. Parental Aid, TWI
3. Per-Student Expenditure[a]	3. High Socio-Economic Status[a]
4. Tuition[a]	4. Good H.S. Grades[a]
5. Traditionally Black Institution	5. Do Well on SAT, ACT[a]
6. Scholarships, Grants[a]	6. Good Study Habits[a]
7. Four-Year College	7. Live in Dormitory[a]
8. Size	8. Involvement[a]
9. Access[a]	
10. % Black Faculty[a]	
11. Private	
Contextual	
1. Northeast Region	
2. Attended Integrated High School[a]	
3. Litigation Status	

[a]Malleable

Source: Synthesis of research studies reported on in 'Research Review' chapter.

degree of malleability. Following Etzioni (1971), malleability refers to the degree to which the phenomenon a variable characterizes is "moveable". From a policy viewpoint, some variables are "given" or extremely difficult to change (sex), while others are relatively more changeable (income).

Next, in order to ascertain a possible relationship between the criterion of effectiveness, as measured by the EQ, and the predictor variables, a decision was made to test these relationships by computing Pearsonian correlations

for the aggregate EQ for the five study years. These correlations were computed by the categories as delineated in the factor analytic technique described above. Table 4.14 provides the correlations for the Institutional category, Table 4.15 for the Contextual category, and Table 4.16 for the Individual category.

According to Table 4.14, the most powerful institutional predictors of institutional effectiveness for all years combined is attending a four-year college, followed by attending a TBI, access of black students to the institution, whether the student was supported by scholarships or grants, and the percent black faculty.

Reviewing Table 4.15, the most powerful contextual predictors of institutional effectiveness for all years combined are attending college in the Northeast and litigation status. These findings suggest that degree completion is more probable by attending college in the Northeast or a TBI in an Adams state.

According to Table 4.16, the most powerful individual predictors of institutional effectiveness for all years combined are involvement in campus life, good high school grades, parental aid for those attending TWIs, living in a dormitory, and high SES.

For exploratory purposes, a stepwise regression method was employed in an attempt to isolate the most powerful set of predictors of institutional effectiveness in the production of baccalaureates. The observations made regarding

Table 4.14: Pearsonian Correlations of Effectiveness Quotient with Institutional Predictors--All Years Combined

Year	Variables[b]										
Criterion	Prestige	Selectivity	Per-Student Exp.	Tuition	TBI	Scholarship Grants	Four-Yr College	Size	Access	% Blk Fac	Private
EQ[a] Combined	.12	.14	.16	.07	.21	.18	.23	.14	.20	.17	.16

$p \leq .05$

a. EQ combined for 276 institutions for 1976-77, 1978-79, 1980-81.
b. Variables derived from synthesis of 31 research studies.

Table 4:15: Pearsonian Correlations of Effectiveness Quotient With Contextual Predictors--All Years Combined

Year	Variables[b]		
Criterion	Northeast Region	Attended Integrated High School	Litigation Status
EQ[a] Combined	.36	.11	.24

$p \leq .05$

a. EQ combined for 276 institutions for 1976-77, 1978-79, 1980-81.

b. Variables derived from synthesis of 31 research studies.

Table 4.16: Pearsonian Correlations of Effectiveness Quotient with Individual Predictors--All Years Combined

Year	Variables[b]							
Criterion	Female	Parental Aid, TWI	High SES	Good High School Grades	Do well on SAT,ACT	Good Study Habits	Live in Dorm	Involvement
EQ[a] Combined	.21	.26	.24	.30	.14	.22	.25	.33

$p \leq .05$

a. EQ combined for 276 institutions for 1976-77, 1978-79, 1980-81.
b. Variables derived from synthesis of 31 research studies.

the power of predictor variables should be regarded as primarily heuristic. The stepwise regression looked at the strongest factors by combining the institutional, individual, and contextual predictors. For all years combined, this analysis indicates that the most important predictor for institutional effectiveness is a contextual factor, that of attending school in the Northeast. An individual factor, involvement, also appeared, followed by good high school grades, and parental aid (TWIs). Institutional predictors of four-year college and attending a TBI also appeared, but they generally followed individual factors. For all salient predictors in the regression analysis, $p \leq .05$.

Next, a modified meta-analysis using effect sizes was conducted. If the null hypothesis is true, then the population correlation or effect size is in fact zero. If sample sizes are known for all studies, then the effect size can be estimated from either the proportion of positive results or from the proportion of positive significant results. Glass (1976) advances systematic quantitative procedures for integrating research findings across studies. The primary properties of Glass's meta-analysis are a strong emphasis on effect sizes rather than significance levels. Glass's argument is that research integration is more descriptive than inferential, and that the most important descriptive statistics are those that indicate clearly the magnitude of effects.

The initial product of Glassian meta-analysis is the mean and standard deviation of effect sizes across studies. His method also entails acceptance of the variance of effect sizes at face value. In essence then, the effect size is the difference between the means in standard score form, that is, the ratio of the difference between the means to the standard deviation.

In an exploratory fashion, correlation coefficients across the relevant studies were combined. A caveat here is that consideration of only studies with statistically significant findings can lead to bias in the estimate of correlations or effect sizes. Another problem in combining evidence from different studies in the behavioral and social sciences is that there is usually no natural scale of measurement for social variables (Hedges and Olkin, 1983). Glass's suggestion of using the standardized mean difference and the correlation coefficient as the two most useful indices for behavioral and social sciences helps somewhat in analysis. However, some investigators have argued that this procedure may obscure real differences in the outcomes of studies conducted under different conditions.

In sum, the use of correlation coefficients as the index indicated the importance of region as a contextual effect, attending a four-year college, a private college, and TBI as institutional effects, and good high school grades, and high SES as individual effects. Again, the use of this modified meta-analysis should be regarded as

exploratory and heuristic. However, it does provide some guidance as to the most salient predictors of persistence and institutional effectiveness.

Table 4.17 summarizes the research review in which effect sizes are determined for those factors found to be most salient in institutional effectiveness in the production of black baccalaureates. The magnitude of the effect size can also be used as a way to rank the factors in their order of importance. By both ranking the salient factors and determining their relative degree of malleability, a meaningful step can be taken in the direction of formulating policy objectives with the intended goal of addressing institutional effectiveness.

Table 4.17: Meta-Analysis

Factors	Effect Size M	SD	N
Institutional			
Attend 4-Year College	.41	.76	26
Attend a TBI	.45	.81	21
Access	.15	.48	9
Scholarship Aid	.27	.72	17
Percent Black Faculty	.31	.73	15
Attend Private College	.47	.86	23
Contextual			
Attend College in Northeast	.54	.91	11
Litigation Status	.42	.46	7
Individual			
Involvement	.31	.68	16
Good High School Grades	.51	.90	15
Parental Aid (TWIs)	.19	.39	17
Living in Dormitory	.30	.72	17
High SES	.42	.89	15

Note: M=Effect Size; SD=Standard Deviation; N=No. of Studies.

In rank order, the factors contributing the most to producing black graduates are attending college in the Northeast, good high school grades, attending a private college, attending a TBI, high SES, and attending a 4-year college.

Taking into account the foregoing analysis, the most consistent institutions in the production of baccalaureates over the 1972-73 to 1980-81 can be evaluated in terms of characteristics which enhance effectiveness. For all institutions that are most effective, half are in the Northeast, seven of ten are private, the majority charge tuition and fees over the average, all are residential rather than commuter institutions, four are in Adams states, only two are weak in terms of access, the majority have student populations of more than 500 and less than 10,000, most are prestigious and selective, with generous per-student expenditures.

Among the top five TBIs over the study period, as expected all are in Adams states, three are private, two are considered prestigious and selective, all have student populations above 500 but less than 10,000, all have equal access for black students, and there is a majority of black faculty in each.

A review of the characteristics of the most effective institutions over the study period reveals a close

correspondence between effectiveness and persistence predictors as reported in the statistical analysis. These findings are revealing and suggestive. The exploratory nature of this study should encourage others to examine the relationship between persistence and institutional effectiveness.

Type of Student Most Likely to Succeed

In this vein, the individual predictors, or factors, help shed light on the type of black student most likely to persist to degree completion. The foregoing analysis identifies such a student as possessing the following attributes: being a female, receiving parental aid (particularly those attending TWIs), being of high socio-economic status, having good high school grades, doing well on aptitude tests (such as SAT or ACT), possessing good study habits, living in dormitory (especially during the first year), and maintaining a high level of involvement with campus life.

Not possessing a majority of these factors does not imply failure. The TBIs have traditionally enrolled students not in possession of the majority of these factors. However, for many not in possession of a majority of these factors, the college experience has allowed them to excel and to acquire a critical number of these individual characteristics. The ongoing value of the TBIs is their ability to admit, retain, and graduate students who do not meet the ideal criteria noted above. A weakness in the TWIs, is that oftentimes black

students not in possession of a majority of these individual characteristics fall by the wayside.

Results of Tests

Ten specific hypotheses were stated earlier. The analysis of the data presented in various forms in Chapters 3 and 4 allows the author to summarize the acceptance or rejection of the hypotheses at this point. Again, the acceptance or rejection of each null hypothesis should be considered tentative.

Hypotheses

1. There is no difference in effectiveness between TBIs and TWIs.
   Finding: Reject. TBI > TWI

2. There is no difference in effectiveness between public and private colleges and universities.
   Finding: Reject. Private > Public

3. There is no difference in effectiveness between public TBIsand private TBIs.
   Finding: Reject. Private TBI > Public TBI

4. There is no difference in the percent of black faculty between colleges and universities that are more effective in graduating black students than those that are less effective.
   Finding: Reject. Larger % of black faculty => higher EQ score

5. There is no difference between more effective and less effective institutions in the likelihood of having special admissions programs.
   Finding: Reject. More effective more likely

6. There is no difference between more effective and less effective institutions in the likelihood of having a retenti... program.
   Finding: Reject. More effective more likely

7. There is no difference between more effective and less effective institutions in the quality of financial aid.
   Finding: Reject. More effective more likely.

8. SAT scores do not have a significant relationship to institutional effectiveness.
   Finding: Accept.

9. Student-faculty ratios have no relationship to institutional effectiveness.
   Finding: Accept.

10. Per student expenditures have no relationship to institutional effectiveness.
    Finding: Reject. Higher per student => more effective.

Of the ten null hypotheses, eight were rejected. The rejection of these null hypotheses leads us to believe that: (1)TBIs are more effective than TWIs in producing black baccalaureates; (2) private institutions are more effective than public institutions; (3) private TBIs are more effective than public TBIs (4) institutions with a larger percentage of black faculty are more effective; (5) institutions with special admissions programs are more effective; (6) institutions with retention programs are more effective; (7) more effective institutions are more likely to have a higher quality of financial aid; and (8) institutions with higher per-student expenditures are more effective in producing black baccalaureates.

Chapter 5

POLICY IMPLICATIONS

For the foreseeable future, colleges and universities in the United States will be operating on the principle of little or no real growth. For many, survival will be the critical issue. Financial constraints and financial stress will serve as basic operational principles for higher education. This situation is particularly real for predominantly black institutions of higher education, witness the recent well publicized problems of Fisk University.

Colleges and universities under financial stress are most successful when they recognize the need for more effective resource use, promote long-range planning, identify priority programs and trim others, attract capable managers, improve fund-raising, and require greater trustee, faculty, and staff involvement (Campbell, 1982; Dickmeyer and Hughes, 1982). Policy-makers in predominantly black institutions often times find it difficult to engage in long-range planning when short-range problems dominate the agenda. Another problem for TBIs is that TWIs are often able to recruit more capable black managers due to higher salary schedules and other employment benefits.

The study reported here has attempted to conceptualize institutional effectiveness and to measure this phenomenon in relation to factors identified as salient in persistence to the degree on the part of black students. The statistical techniques represent an attempt to identify

and rank the most salient factors in terms of their impact. Those variables, predictors or factors considered malleable were identified. Statistical and meta-analysis served to isolate effect sizes of the more malleable factors, thus ranking them. As Etzioni (1971) reminds us, the ranking of factors in terms of their malleability is important in itself. However, a general theory of malleability is central to policy science. For policy studies should focus attention and research on the more moveable variables and on the conditions under which less moveable ones can become more open to modification.

In this context, a concern is also what makes for an effective undergraduate institution in relation to producing black graduates? As seen earlier, factors contributing to institutional effectiveness can be classified as institutional, individual, and contextual. The methods employed in this research should allow for formulating a reasonable answer to this question. The policy implications suggested by both the societal and institutional analyses should be couched within a context of non-expansion in higher education.

Among the institutional factors, malleable variables include access, scholarships, grants, percent black faculty, per-student expenditure, selectivity, and tuition.

From a policy viewpoint, knowledge, commitments, decision-making strategies, and power should continue to be devoted to increasing the access of black students to higher education, supported adequately by scholarships and grants, in institutions with a reasonable percentage of black faculty and adequate per-student expenditures.

The policy of the Reagan Administration is hampering the access of black students to higher education, and the progress of traditionally black institutions. Because of new regulations it will be considerably more difficult for many black and low income college students to continue their education, as well as for high school students to enter college. In addition, the Reagan Administration does not seem inclined to support the established guidelines for dismantling dual systems of higher education as mandated in Judge John Pratt's orders with respect to the Adams v. Califano case (Blackwell and Hart, 1982).

Among individual factors, the malleable variables in rank order include involvement, good high school grades, living in a dormitory, high socio-economic status, good study habits, and good SAT, ACT scores. At the individual level, these findings imply structures that can encourage black students to become involved on both black and white campuses, to achieve academically in high school, to develop good study habits, and to perform well on aptitude tests. Socio-economic status is important in that higher SES

black students tend to outperform lower SES black students. However, the overall median black family income has remained only around half that of the median white family income. This factor is malleable, however, it has become a difficult policy outcome to achieve given chronically higher rates of black unemployment and underemployment in the U.S. economy.

Among the contextual factors, attending an integrated high school is the single malleable variable. The Brown v. Board of Education decision has been the guiding legal framework for the 30 year policy debate and action in relation to desegregation and integration in education. Again, this factor is malleable, but it has proven to be a tough policy outcome to achieve.

Traditionally black institutions remain important in terms of providing access to higher education in an effective and efficient manner to tens of thousands of black students. Outside of private, four-year colleges located in the Northeast, TBIs remain, as a group, the most effective institutional type in producing black graduates. However, compared to the private, four-year Northeastern colleges, the TBIs graduate a significantly larger number of black students per year.

The broad issues discussed here suggest a need to develop and implement policies that can strengthen the education of black students at the elementary and secondary levels in order to allow them to prepare adequately for college as a post-high school option. At least eight commissioned reports have been issued recently on the broad topic of how to improve elementary and secondary education in the U.S. This attention to the topic of elementary and secondary education is healthy. It implies an opening of the discussion as a policy question. More commitment, decision-making strategies, knowledge and power may be directed to the topic. A concern with improving elementary and secondary education stands to benefit black people at all levels of education.

A caveat in regards to making improvements in elementary, secondary, and higher education is in regard to projections for occupational gains and losses in the 1980s. The Bureau of Labor Statistics points to a projected loss in the 1980-1990 decade of 55,000 jobs for college and university teachers. This projected job reduction compares to a loss of 173,000 jobs for secondary-school teachers.

Retrenchment is with us for this decade at least. Professional and teaching ideals in the academy are going to be tested. Morale is declining, primarily due to feelings of exclusion, rather than for economic reasons. At the same time, the faculty is becoming more sensitive to the needs of undergraduates and the surrounding community.

The task of improving access to, and the performance level of, higher education will continue to be a difficult agenda item during the 1980's. This report is an attempt to identify, describe, and measure the most salient and malleable factors in persistence among black students, and to prescribe broad approaches for improving institutional effectiveness.

Colleges and universities are going to be seeing many more non-traditional undergraduate students. They will be older, more experienced, and a different type of undergraduate than many institutions are accustomed to. Faculty members are going to be doing more inter-disciplinary collaboration than many of them may be accustomed to. Many faculty members will be spending more and more time outside of the academy.

The decade of the 1980's is going to be a time of turmoil and change for colleges and universities. The ideals of the profession are changing. Teaching ideals are changing. Continued knowledge, commitment, decision-making strategies, and power need to be applied to improving the access of black students to undergraduate education, and the effectiveness of institutions in graduating them, in spite of the difficult environment attendant to the higher education enterprise.

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